

# Office of River Protection



## Monthly Reporting Period

November 1–November 30, 2019<sup>1</sup>

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<sup>1</sup> The narrative descriptions of progress in this report cover the reporting period. Information outside the reporting period may also be included for purposes of providing continuity or useful context. Information may be repeated in multiple sections of this report for continuity and clarity. Earned Value Management System data and descriptions cover the period October 1–31 2019.

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## Acronyms and Abbreviations

CV	cost variance
DFLAW	direct-feed low-activity waste
DST	double-shell tank
Ecology	Washington State Department of Ecology
ETF	Effluent Treatment Facility
FY	fiscal year
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i> (HFFACO and TPA are used interchangeably throughout this report)
IQRPE	independent, qualified, registered, professional engineer
LERF	Liquid Effluent Retention Facility
ORP	U.S. Department of Energy, Office of River Protection
SST	single-shell tank
SV	schedule variance
TPA	Tri-Party Agreement
TSCR	tank-side cesium removal
WRPS	Washington River Protection Solutions LLC
WMA	waste management area
WTP	Waste Treatment and Immobilization Plant

**Administrative Items/Milestone Status**

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
<b>Prior Years</b>				
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	B. Harkins	In Dispute
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	B. Harkins	In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	B. Harkins	In Dispute
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	B. Harkins	In Dispute
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	B. Harkins	In Dispute
<b>Fiscal Year 2020 (October 1, 2019–September 30, 2020)</b>				
M-062-40G	Select a Minimum of 3 Scenarios	10/31/2019	B. Harkins	Completed
M-045-92V	Complete Construction of Barriers 1 (North) and 2 (South) and Expansion Barrier in 241-SX Farm	10/31/2019	B. Harkins	Completed
M-045-92W	Submit to Ecology Design for Barrier 3 in 241-TX Farm	10/31/2019	B. Harkins	Completed
M-045-92AC	Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers	10/31/2019	B. Harkins	Completed
M-045-92X	Barrier 3 in 241-TX Farm Design Approved by Ecology	01/31/2020	B. Harkins	Completed

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
M-062-01AN	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2020	G. Trenchard	On Schedule
M-045-93	Submit Report for Description, Analysis and Technology for Removing Drainable Liquids from SSTs	06/30/2020	B. Harkins	On Schedule
M-062-54A	Submit Permit Application for AP Tank Farm Mods and Operation Necessary to Support TSCR	07/15/2020	B. Harkins	On Schedule
M-062-01AO	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2020	G. Trenchard	On Schedule
M-045-56P	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2020	B. Harkins	On Schedule
M-045-99	Submit to Ecology the Preliminary Performance Assessment/Closure Analysis ( <i>refers to WMA A/AX</i> )	09/30/2020	B. Harkins	On Schedule
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD <sup>1</sup>	B. Harkins	On Schedule
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD <sup>1</sup>	B. Harkins	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD <sup>1</sup>	B. Harkins	On Schedule
<b>Fiscal Year 2021 (October 1, 2020 – September 30, 2021)</b>				
M-045-92AD	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2020	B. Harkins	On Schedule
M-062-40H	Submit System Plan to Ecology	10/31/2020	J. Grindstaff	On Schedule

Milestone	Title	Due Date	DOE PM	Status
M-062-50	Submit to Ecology as a Secondary Document, a Mass Balance Flow	01/30/2021	B. Harkins	On Schedule
M-062-01AP	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2021	G. Trenchard	On Schedule
M-090-14	Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW	3/31/2021	B. Harkins	On Schedule
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021	B. Harkins	On Schedule
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	4/30/2021	B. Harkins	In Dispute
M-062-01AQ	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2021	G. Trenchard	On Schedule
M-045-56Q	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)	07/31/2021	B. Harkins	On Schedule
M-045-91E4	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2021	B. Harkins	On Schedule
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	09/30/2021	B. Harkins	On Schedule

<sup>1</sup> To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

CD	=	critical decision.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
CMIP	=	corrective measures implementation work plan.	SST	=	single-shell tank.
DFLAW	=	direct-feed low-activity waste.	TBD	=	to be determined.
DOE	=	U.S. Department of Energy.	TSCR	=	tank-side cesium removal.
Ecology	=	Washington State Department of Ecology.	WTP	=	Waste Treatment and Immobilization Plant.
Mod	=	modification.	WMA-C	=	C Tank Farm waste management area.
PM	=	project manager.			

## System Plan

**Responsible Assistant Manager:** Joni Grindstaff  
**Technical Lead:** Kaylin Burnett  
**Ecology Project Manager:** Dan McDonald, Jeff Lyon

**M-062-40H**    **Submit System Plan to Ecology**  
 Due: October 31, 2020  
 Status: On Schedule.

**M-062-45-A**    **Complete Negotiations 6-Months after Last Issuance of System Plan**  
 Due: April 30, 2021  
 Status: On Schedule.

## Significant Past Accomplishments

The selected scenarios for the *River Protection System Plan* (System Plan), Rev. 9 were agreed upon by U.S. Department of Energy, Office of River Protection (ORP) and Washington State Department of Ecology (Ecology). ORP documented the agreement and transmitted letter 19-MIO-0020, "Request for Concurrence on Selected Scenarios for the River Protection Project System Plan, Revision 9," dated September 25, 2019, to Ecology for concurrence. Ecology concurred on October 2, 2019, via letter 19-NWP-158, "Re: Transmittal of Signed Concurrence for *Selected Scenarios for the River Protection Project System Plan, Revision 9*, RPP-RPT-61707, Rev. 0."

## Significant Planned Actions in the Next Six Months

- Discuss disputes with regard to milestone M-062-45 and its associated milestones during holistic negotiations.
- Ecology and ORP will continue discussions in support of System Plan, Rev. 9 development, due October 31, 2020.

## Issues

- None.

## Acquisition of New Facilities

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Janet Diediker  
**Ecology Project Manager:** Dan McDonald, Jeff Lyon

- M-090-14**    **Submit CD-1 for Facility to Store Spent Ion Exchange Columns Prior to DFLAW<sup>2</sup>**  
                   Due:    March 31, 2021.  
                   Status:    On Schedule.
- M-090-13**    **CD-1 for Interim Hanford Storage Project and CR for CD-2 to ECY<sup>3</sup>**  
                   Due:    September 30, 2025.  
                   Status:    On Schedule.
- M-090-00**    **Acquire/Modify Facilities for Storage of First Two Years of IHLW<sup>4</sup> from the WTP<sup>5</sup> Operations**  
                   Due:    December 31, 2036.  
                   Status:    On Schedule.
- M-047-00**    **Completion of Work for Management of Secondary Waste from the WTP**  
                   Due:    To Be Determined.  
                   Status:    On Schedule.

## Significant Past Accomplishments

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations (“Complete Negotiations 6-months After Last Issuance of System Plan”).

## Significant Planned Actions in the Next Six Months

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

## Issues

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

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<sup>2</sup> DFLAW denotes direct-feed low-activity waste.

<sup>3</sup> ECY denotes Washington State Department of Ecology.

<sup>4</sup> IHLW denotes immobilized high-level waste.

<sup>5</sup> WTP denotes Waste Treatment and Immobilization Plant.



## Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Ricky Bang  
**Ecology Project Manager:** Dan McDonald

The current status for each of the projects listed below, unless noted differently, is:

- In Dispute. Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. Therefore, the status of the milestones below has changed to “In Dispute.”

<b>M-062-45-T01</b>	<b>Complete Negotiations 6-Months after Last Issuance of System Plan</b>
Due:	April 30, 2015.
<b>M-062-45-ZZ</b>	<b>Negotiate a One-Time Supplemental Treatment Selection</b>
Due:	April 30, 2015.
<b>M-062-45-ZZ-A</b>	<b>Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones</b>
Due:	April 30, 2015.
<b>M-062-31-T01</b>	<b>Complete Final Design and Submit RCRA<sup>6</sup> Part B Permit Modification Request for Enhanced WTP &amp; Supplemental Treatment</b>
Due:	April 30, 2016.
<b>M-062-32-T01</b>	<b>Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements</b>
Due:	April 30, 2018.
<b>M-062-33-T01</b>	<b>Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements</b>
Due:	April 30, 2021.
<b>M-062-45-XX</b>	<b>Complete Negotiations to Resolve Future Disputes M-062-45, Paragraphs 4 and 5</b>
Due:	December 31, 2021.
Status:	On Schedule.
<b>M-062-34-T01</b>	<b>Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements</b>
Due:	December 30, 2022.

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<sup>6</sup> RCRA denotes *Resource Conservation and Recovery Act*.

**M-062-21    Annually Submit Data Which Demonstrates Operation of the WTP at a Rate Sufficient to Meet M-062-00**

Due: February 28, 2023.

Status: At risk.

**M-062-00    Complete Pretreatment Processing and Vitrification of HLW<sup>7</sup> and LAW<sup>8</sup> Tank Wastes**

Due: December 31, 2047.

Status: At risk.

**Significant Past Accomplishments**

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

**Significant Planned Actions in the Next Six Months**

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

**Issues**

- See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

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<sup>7</sup> HLW denotes high-level waste.

<sup>8</sup> LAW denotes low-activity waste.

## **Low-Activity Waste Pretreatment System**

***Tank Farms Assistant Manager:*** Rob Hastings  
***Technical Lead:*** Steve Pfaff  
***Ecology Project Manager:*** Dan McDonald

**M-062-50**    **Submit to Ecology as a Secondary Document, a Mass Balance Flow**  
Due:    January 30, 2021.  
Status:    On Schedule.

### **Significant Past Accomplishments**

- None.

### **Significant Planned Actions in the Next Six Months**

- None.

### **Issues**

- None.

## Tank-Side Cesium Removal System

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Sahid Smith  
**Ecology Project Manager:** Dan McDonald

This “Tank-Side Cesium Removal System” (TSCR) section only covers the Tank Farms Project scope of the direct-feed low-activity waste mission. Please refer to the Consent Decree monthly report for the Waste Treatment and Immobilization Plant Project scope pertaining to direct-feed low-activity waste.

**M-062-54A     Submit Permit Application for AP Tank Farm Mods and Operation Necessary to Support TSCR**

Due: July 15, 2020.  
Status: On Schedule.

### Significant Past Accomplishments

- Submitted additional technical and design information for the TSCR *Resource Conservation and Recovery Act* permit application to Ecology via letter 19-ECD-0079, “Submittal of Additional Technical and Design Information for the Dangerous Waste Part B Permit Application for the Low-Activity Waste Pretreatment System (TS-2-8),” dated October 31, 2019.

### Significant Planned Actions in the Next Six Months

- TSCR system fabrication is projected to be completed in 2019.
- TSCR system factory acceptance testing is projected to begin in the first quarter of calendar year 2020.

### Issues

- Since April 2018, ORP and Ecology have been engaged in discussions about regulatory framework related to TSCR emissions. Ecology has expressed concern about issuing a permit for a system that sends air emissions or ventilation to a double-shell tank (DST) or single-shell tank (SST). Based on recent discussions, and to address Ecology’s concerns, ORP is developing and evaluating potential options for sampling and monitoring the TSCR emissions vented to the AP Tank Farm.
- On December 3, 2018, Ecology sent ORP and the U.S. Department of Energy, Richland Operations Office letter 18-NWP-177, “Hanford Site Ambient Air Boundary Concerns,” regarding the Hanford Site ambient air boundary. In it, Ecology expressed its belief that the ambient air boundary appears to have changed as a result of increased public access to parts of the Hanford Site. ORP, Ecology, and the Washington State Department of Health have met several times to attempt to develop a shared understanding of existing conditions and a path forward.

## 242-A Evaporator Status

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Paul Hernandez  
**Ecology Project Manager:** Jeff Lyon

The 242-A Evaporator campaign strategy for fiscal year (FY) 2020 is in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
2020	EC-11	N/A	N/A	A cold run will be initiated prior to June 25, 2020, at the 242-A Evaporator. This run will occur while fieldwork activities for the new transfer lines from 242-A Evaporator to 241-AW Tank Farm are in progress. This run will maintain 242-A Evaporator readiness, staff proficiency, and cycle idle equipment.

N/A = not applicable.

### Significant Past Accomplishments

- Awarded fabrication contract for PB-1 spare pump
- Awarded fabrication contract for PB-2 spare pump
- Completed design for replacement of 242-A Evaporator instrument air dryer
- Received new instrument air dryer
- Completed 60 percent design for 242-A Evaporator transfer line replacement.

### Significant Planned Actions in the Next Six Months

- Remove feed line jumper from pump room to support EC-11
- Procure new PB-1 and PB-2 replacement pumps
- Install 242-A Evaporator instrument air dryer upgrade, remove Tanks E1-1/E104, and replace Tank E102
- Complete 100 percent design for 242-A Evaporator transfer line replacement
- Replace the sock filter assembly on the filtered raw water system
- Initiate 242-A Evaporator safe systems upgrades engineering design.

### Issues

- None.

## Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Richard Valle  
**Ecology Project Manager:** John Temple, Dan McDonald (for milestones)

**M-062-51-T01     Submit to Ecology, as a Primary Document for Approval a Secondary Liquid Waste Disposition Work Plan**

Due: December 31, 2021.  
 Status: On Schedule.

**M-062-51-T02     Submit Permit Modification Request for Redesign Upgrades And Operations to Support Volumes of Waste Types Expected**

Due: May 15, 2022.  
 Status: On Schedule.

**M-062-51     Achieve Substantial Completion of LERF/ETF Construction Upgrades Necessary for LAW Hot Commissioning**

Due: April 15, 2023.  
 Status: On Schedule.

### Significant Past Accomplishments

- Total FY 2020 processing volume: approximately 1 million gallons
- Continued Effluent Treatment Facility (ETF) cleanout activities at the completion of Liquid Effluent Retention Facility (LERF) Basin 42 processing.
- Began fieldwork for the upgrade of the ETF rough filter system. Completed replacement of rough filter hoist.
- Began fieldwork for the upgrade of the ETF uninterruptible power supply. Completed removal of existing uninterruptible power supply unit.
- Began fieldwork for the upgrade of ETF reverse osmosis system. Completed removal of existing reverse osmosis membranes.
- Completed the 30-percent design review for LERF Basin 41 project.

### Significant Planned Actions in the Next Six Months

- Complete ETF cleanout activities for the completion of LERF Basin 42 processing
- Complete commissioning of the new ETF peroxide decomposer system in preparation for the Waste Treatment and Immobilization Plant (WTP) direct-feed low-activity waste (DFLAW) effluent
- Perform ETF brine load-out system upgrade to manage secondary waste
- Perform physical tie-in of transfer lines 200-E-310-PL (primary) and 200-E-311-PL (backup) at the interface points in preparation for the WTP DFLAW effluent

- Perform ETF stairs and ladder replacements to improve personnel safety and ergonomics
- Perform ETF chiller upgrade to improve reliability and reduce system maintenance
- Perform ETF dilute caustic tank upgrade with a tank of compatible material to the system piping
- Perform ETF reverse osmosis pumps and valving upgrade to replace leak prone valves and obsolete system pumps
- Perform ETF verification tank 2 repair to replace the interior protective epoxy coating
- Perform ETF load-in drain and filter system upgrade to install a new sump tank system
- Perform ETF evaporator valve upgrade due to leak-prone issues
- Perform ETF cooling tower and pump upgrade, which is subject to shut down due to the degraded condition
- Perform ETF uninterruptible power supply upgrade due to age and the occurrence of faults
- Perform ETF rough filter and hoist refurbishment to reduce processing down time
- Design ETF ultraviolet/oxidation system upgrade since the existing system is no longer supported by the manufacturer
- Design ETF monitoring and control system / hardware upgrade, which is currently operating on outdated systems
- Design LERF Basin 41 installation for additional capacity
- Design ETF redundant filtration upgrade to reduce processing down time
- Design ETF load-in station expansion to support enhanced facility operation
- Design ETF vessel offgas demister housing upgrade to repair degraded condition
- Design ETF supplemental organic treatment system in preparation for the WTP DFLAW effluent.

**Issue**

- Work has paused on the LERF Basin 44 cover replacement project while nuclear safety evaluations are performed by Washington River Protection Solutions LLC (WRPS). Evaluations are due to visual indication of solid material in the basin and sample results from that material.

**LERF Volumes**

LERF liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated.<sup>9</sup> Tanker shipment volumes are estimated by multiplying the number of shipments by the capacity of the tanker being used.

<b>Description</b>	<b>242AL-42 (Basin 42)</b>	<b>242AL-43 (Basin 43)</b>	<b>242AL-44 (Basin 44)</b>
AZ-301 Condensate	+ 4,500	-	-
Mixed Waste Trench 31 and 34	+ 19,200	-	-
Other (325 RPS, SWL)	+ 2,700	+ 1,800	-
Processing Campaign(s)	-	-	-
<b>Total Volume</b>	<b>2,642,000</b>	<b>6,431,000</b>	<b>610,000</b>

Data Date: November 30, 2019.  
Values shown in gallons.

RPS = retention process sewer.  
SWL = solid waste landfill leachate.

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<sup>9</sup> The volume in each Liquid Effluent Retention Facility basin is calculated from liquid level sensor readings. Therefore, based on sensor fluctuations and/or environmental effects (e.g., precipitation, temperature), values for basin volumes may vary slightly from the net inputs and outputs shown for the basin.



## Tank System Update

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Dustin Stewart  
**Ecology Project Manager:** Jeff Lyon, Nina Menard

Reports are identified as completed (internal access only) or released (external access).

**M-045-91E4 Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology**

Due: September 30, 2021.  
 Status: On Schedule.

**M-045-91K Complete Initial Baseline Visual Inspections of all SSTs**

Due: September 30, 2023.  
 Status: On Schedule.

**M-045-91K-T01 Submit Report of the Initial Baseline Visual Inspection of all SSTs Remaining to be Inspected**

Due: March 31, 2024.  
 Status: On Schedule.

**M-045-91L Obtain Assessment Reviewed/Certified by an IQRPE Attesting to SST Structural Integrity**

Due: September 30, 2034.  
 Status: On Schedule.

### Double-Shell Tank Integrity

#### Significant Past Accomplishments

- Received an annulus floor cleaner to clean the annulus floor of Tank AY-101
- Received and installed a retractable corrosion monitoring probe in Tank AY-101
- Ultrasonic testing inspections were completed for the following tanks in FY 2019:
  - 241-AP-107
  - 241-AP-108
  - 241-AN-102
  - 241-AP-106
  - 241-AP-102 (annulus floor ultrasonic testing only; air slot inspection)
- Completed enhanced annulus visual inspection in FY 2019:
  - 241-AN-101
  - 241-AN-102
  - 241-AN-103
  - 241-AN-104

- 241-AN-105
- 241-AN-106
- 241-AN-107
- 241-AZ-101
- 241-AZ-102.
- Completed enhanced annulus visual inspection in November FY 2020:
  - 241-AW-101
  - 241-AW-102
  - 241-AW-103
  - 241-AW-104
  - 241-AW-105
  - 241-AW-106
  - 241-SY-102

### **Significant Planned Actions in the Next Six Months**

- Complete the design of a primary tank bottom volumetric inspection system to be deployed into the annulus of DSTs and used to characterize regions of the primary tank bottom. The procurement contract to fabricate, test, and deliver this system will be awarded in FY 2020.
- Fabricate two retractable corrosion monitoring probes for installation in the following tanks:
  - 241-AW-104
  - 241-AP-102.
- Award a competitive procurement contract to a vendor to design and fabricate a tertiary leak detection inspection tool for deployment beneath the secondary liner of a DST.
- Complete ultrasonic testing of the following tanks:
  - 241-AW-102 (started November 2019)
  - 241-AW-101
  - 241-AW-106.
- Complete enhanced annulus visual inspections in FY 2020
  - 241-SY-101 (six of eight risers completed)
  - 241-SY-103
  - 241-AW-105
  - 241-AW-106.

### **Issues**

- None.

## **Single-Shell Tank Integrity**

### **Significant Past Accomplishments**

- Visual inspections were completed for the following tanks in FY 2019:
  - 241-AX-102
  - 241-B-102
  - 241-B-103
  - 241-B-110
  - 241-B-111
  - 241-B-112
  - 241-BX-104
  - 241-C-106
  - 241-SX-114
  - 241-SX-115
  - 241-T-103
  - 241-T-108
  - 241-T-202
  - 241-U-101
  - 241-U-106
  - 241-U-109
  - 241-TY-106.
- RPP-RPT-55202, *Dome Survey Report for Hanford Single-Shell Tanks*, Rev. 3, was transmitted to Ecology in September satisfying TPA milestone M-045-91E3 via letter 19-TPD-0018, “Completion of Hanford Federal Facility Agreement and Consent Order Interim Milestone M-045-91E3 Deliverable,” dated September 5, 2019.
- Performed TFC-ENG-CHEM-D-42, *Tank Leak Assessment Process*, on the following tanks in FY 2019:
  - 241-T-101
  - 241-T-103

### **Significant Planned Actions in the Next Six Months**

- Perform TFC-ENG-CHEM-D-42 on the following tanks in FY 2020:
  - 241-SX-104 (ongoing)
  - 241-T-109
  - 241-T-113
- Perform SST visual inspection in FY 2020 on the following tanks:
  - 241-B-107
  - 241-BX-105
  - 241-BX-108
  - 241-BX-109

- 241-BX-112
- 241-BY-107
- 241-S-103
- 242-S-110
- 241-SX-112
- 241-TX-101
- 241-TX-102
- 241-TX-104
- 241-TX-107
- 241-TX-110
- 241-TY-101
- 241-TY-104.

### Issue

- None.

### **Independent Qualified Registered Professional Engineer Activities**

- DST system:
  - RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*, Rev. 1, was completed in 2016.
  - The independent, qualified, registered, professional engineer (IQRPE) recommended the next DST system integrity assessment report be completed in 10 years.
- SST system:
  - Completed M-045-9II Milestone report RPP-IQRPE-50028, *Single-Shell Tank System Structural Integrity Assessment Report*, in 2018.
  - The IQRPE recommended the next SST structural integrity assessment be completed in 16 years. Ecology transmitted letter 19-NWP-009, “Single-Shell Tank Structural Integrity Assessment, RPP-IQRPE-50028,” on January 16, 2019. The letter noted Ecology’s agreement with the IQRPE’s 16 year recommendation.
- 242-A Evaporator:
  - Completed RPP-RPT-60098, *242-A Evaporator System Integrity Assessment Report*, Rev. 0 in 2018.
  - The IQRPE recommended the next 242-A Evaporator system integrity assessment be completed in 15 years. Ecology transmitted letter 18-NWP-114, “Department of Ecology’s (Ecology’s) Comment on the 242-A Evaporator System Integrity Assessment Report, RPP-RPT-60098, Revision 0,” on July 19, 2018. The letter noted Ecology’s disagreement with the IQRPE’s 15 year recommendation. The Hanford Sitewide Permit, Rev. 8C currently provides for 242-A Evaporator system integrity assessments at a frequency of 10 years, and ORP will continue to comply with the permit condition.

- ETF:
  - The IQRPE finalized and transmitted RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*, to WRPS on September 12, 2019. The report has been publically cleared and ORP personnel have been notified.
- 219-S Tank system:
  - WRPS awarded the contract for the 219-S integrity assessment project to Meier Architecture Engineering (Meier).
  - As part of the 219-S assessment, the 24-hour static leak test was successfully performed on Tank TK-101 and Tank TK-104 on September 13, 2018, and September 5, 2018, respectively. Tank TK-102 was successfully leak tested on May 7, 2019, completing the leak testing work needed for the assessment. Visual inspections were completed at Tank TK-101, Tank TK-102, and Tank TK-104 waste receiver vessels in September 2019.
  - Visual inspections of the sample gallery and room 2B hood 16 were completed on July 17, 2019. Both areas inspected appeared to be clean with little sign of corrosion or degradation.
  - Internal and external visual inspections of the 219-S tank system and their secondary containment were completed on September 25, 2019. Visual inspection of the hot tunnels was completed on October 2, 2019. This activity completes the facility inspections necessary for the integrity assessment.
  - Meier submitted Revision B of RPP-IQRPE-50029, *219-S Integrity Assessment Report*, to WRPS on November 8, 2019.

## In-Tank Characterization and Summary

**Tank Farms Assistant Manager:** Rob Hastings  
**Technical Lead:** Dustin Stewart  
**Ecology Project Manager:** Jeff Lyon

### Reports Completed or Released

For November 2019, the following reports were completed (internal access only) or released (external access):

- Completed:
  - RPP-RPT-44049, *Derivation of Best-Basis Inventory for Tank 241-AZ-102 as of October 2, 2019*, Rev. 15
  - RPP-RPT-44740, *Derivation of Best-Basis Inventory for Tank 241-AX-102 as of October 2, 2019*, Rev. 4
  - RPP-PLAN-62902, *Tank 241-SY-102 Grab Sampling and Analysis Plan – Fiscal Year 2019*, Rev. 1
  - RPP-PLAN-63449, *Sampling and Analysis Plan for Tank CR-001 in the 244-CR Vault*, Rev. 0
  - RPP-PLAN-63677, *Tank 241-AP-105 Liquid Grab Sampling Plan for Large Volume Testing at Pacific Northwest National Laboratory (PNNL)–Phase 2*, Rev. 0
  - RPP-PLAN-63634, *Tank 241-AP-106 Repurposing Step 6 Sampling and Analysis Plan*, Rev. 0
  - RPP-RPT-60637, *Tank Core Profile Report for 241-A Tank Farm*, Rev. 0
  - RPP-RPT-61664, *Tank 241-AW-103 Grab Sampling 2019 Final Report*, Rev. 0
- Released:
  - HNF-EP-0182, *Waste Tank Summary Report for Month Ending October 31, 2019*, Rev. 382.

### Tank Sampling

#### Significant Past Accomplishments

For November 2019, the following tank sampling was conducted:

- Tank 241-AN-107 core sampling was performed November 5, 2019, through November 18, 2019. Six core samples were received at the laboratory.
- Tank 241-A-104 grab sampling (first of two risers) was performed October 29, 2019. Two samples were received at the laboratory. The sampling effort was completed during November 2019.

**Significant Planned Actions in the Next Six Months**

Future tank sampling is scheduled to be performed as identified below:

- Tank 241-AN-101 repurposing step 4 receiver tank grab sampling is planned for December 2019.
- Tank 241-AP-105 Phase 1 large volume grab sampling is planned for December 2019.
- Tank 241-AP-105 Phase 2 large volume grab sampling is planned for December 2019.
- Tank 241-AP-106 repurposing step 6 grab sampling is planned for December 2019.
- Tank 241-AP-102 repurposing receiver tank grab sampling is planned for February 2020.
- Tank 241-AP-108 repurposing receiver tank grab sampling (if required) is planned for April 2020.

**Issues**

- None.

**Best-Basis Inventory Updates****Significant Past Accomplishments**

- Best-basis inventory updates for the following tanks were completed in November 2019:
  - 241-AX-102
  - 241-AZ-102.

**Significant Planned Actions in the Next Month**

- Best-basis inventory updates for the following tanks are currently planned to be completed in December 2019:
  - 241-AP-102
  - 241-AP-106
  - 241-AZ-101
  - 241-SY-102
  - 241-U-101
  - 241-U-109.

**Issues**

- None.

## Single-Shell Tank Closure Program

**Tank Farms Assistant Manager:** Rob Hastings

**Technical Lead:** Rod Lobos

**Ecology Project Manager:** Jeff Lyon

**M-045-59 Control Surface Water Infiltration Pathways as Needed**

**Due:** To Be Determined. Will be implemented if needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST waste management areas (WMA) (pending the corrective measures study report, M-45-58 Milestone, and implementation of other interim corrective measures).

**Status:** On Schedule.

**M-045-62 Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 Corrective Measures Implementation Work Plan (CMIP) for WMA-C<sup>10</sup>**

**Due:** To Be Determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.

**Status:** On Schedule.

**M-045-83 Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan**

**Due:** To Be Determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.

**Status:** On Schedule.

**M-045-92V Complete Construction of Barriers 1 (South) and 2 (North) and Expansion Barrier in 241-SX Farm**

**Due:** October 31, 2019.

**Status:** Completed in May 2019.

**Note:** This includes the construction of the SX Tank Farm expansion barrier as well.

**M-045-92W Submit to Ecology Design for Barrier 3 in 241-TX Farm**

**Due:** October 31, 2019.

**Status:** Completed October 17, 2019.

**M-045-92AC Submit to Ecology for Approval a Maintenance and Performance Monitoring Plan for Interim Barriers**

**Due:** October 31, 2019.

**Status:** Completed October 31, 2019.

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<sup>10</sup> WMA-C denotes C Tank Farm waste management area.



- M-045-92X**     **Barrier 3 in 241-TX Farm Design Approved by Ecology**  
Due: January 31, 2020.  
Status: Completed October 17, 2019.
- M-045-99**     **Submit to Ecology the Preliminary Performance Assessment/Closure Analysis (*refers to WMA A/AX*)**  
Due: September 30, 2020.  
Status: On Schedule.
- M-045-92AD**     **Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**  
Due: October 31, 2020.  
Status: On Schedule.
- M-045-97**     **Submit to Ecology as a Primary Document a Waste Management Area Integration Study for WMA A/AX as described in HFFACO Appendix I.2.1.1**  
Due: September 30, 2021.  
Status: On Schedule.
- M-045-92Y**     **Complete Construction of Barrier 3 in 241-TX Farm**  
Due: October 31, 2021.  
Status: On Schedule.
- M-045-92Z**     **Submit to Ecology Design/Maintenance and Performance Monitoring Plan for Barrier 4 in 241-U Farm**  
Due: October 31, 2021.  
Status: On Schedule.
- M-045-92AA**     **Barrier 4 in 241-U Farm Design Approved by Ecology**  
Due: January 31, 2022.  
Status: On Schedule.
- M-045-85**     **Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs**  
Due: January 31, 2022.  
Status: On Schedule.
- M-045-98**     **Submit to Ecology as a Primary Document an RFI/CMS<sup>11</sup> work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6**  
Due: September 30, 2022.  
Status: On Schedule.

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<sup>11</sup> Resource Conservation And Recovery Act Facility Investigation/Corrective Measure Study

- M-045-102**     **Submit to Ecology a Performance Assessment (PA) Maintenance Plan for WMA A/AX PA**  
 Due: September 30, 2022.  
 Status: On Schedule.
- M-045-92AB**     **Complete Construction of Barrier 4 in 241-U Farm**  
 Due: October 31, 2023.  
 Status: On Schedule.
- M-045-103**     **Submit to Ecology a PMR<sup>12</sup> with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule**  
 Due: September 30, 2026.  
 Status: On Schedule.
- M-045-104**     **Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX**  
 Due: September 30, 2028.  
 Status: On Schedule.
- M-045-00**     **Complete Closure of All SST Farms**  
 Due: January 31, 2043.  
 Status: At Risk. Decision document 2016-005 signed August 22, 2016, requires this milestone to be addressed with the negotiations supporting M-062-45 Milestone. See the “System Plan” section above for updates related to the M-062-45 Milestone negotiations.

### Significant Past Accomplishments

- Submitted revisions and comment responses to Ecology for RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*; RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for 241-C-200 Series Tanks*; and RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*.
- Continued permitting workshops with Ecology for the SST closure plans in the Hanford Site-wide permit.
- Approved DOE/ORP-2014-02, *Clean Closure Practicality Demonstration for the Single-Shell Tanks*, with supplemental information DOE/ORP-2014-02-SUPP-1 via letter 19-NWP-090, “Transmittal of Supplemental Information to the Clean Closure Practicality Demonstration for the Single-Shell Tanks, DOE/ORP-2014-02-SUPP1, Revision 0,” by Ecology on June 12, 2019.
- Submitted design for Barrier 3 in 241-TX Tank Farm to Ecology. This action completes milestone M-045-92W as noted by Administrative Record documentation (AR-03145) signed October 17, 2019.

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<sup>12</sup> Permit Modification Request

- Submitted the maintenance and performance monitoring plan for interim barriers to Ecology. This action completes milestone M-045-92AC. ORP letter 19-TPD-0027, “Completion of Maintenance Performance and Monitoring Plan Submittal to Meet Hanford Federal Facility Agreement and Consent Order Milestone M-045-92AC,” dated October 31, 2019, documented completion of this milestone. The letter states the Maintenance and Performance Monitoring Plan was hand delivered to Ecology for approval on October 10, 2019.
- Ecology approved the design for Barrier 3 in 241-TX Tank Farm to allow the start of construction. This action completes milestone M-045-92X as noted by Administrative Record documentation (AR-03146) signed October 17, 2019.

### Significant Planned Activities in the Next Six Months

- Resolve Ecology’s comments on RPP-RPT-59389, RPP-RPT-59390, and RPP-RPT-58858.

### Issues

- Interagency Management Integration Team decisions for the four issues on RPP-RPT-58329, *Baseline Risk Assessment for Waste Management Area C*, have been stalled since the February 21, 2019, meeting. Interagency Management Integration Team determinations for judgmental sampling and for hazard index were signed November 21, 2019, and November 25, 2019, respectively. The other two issues remain open.
- ORP formally initiated the Tri-Party Agreement (TPA) dispute resolution process with Ecology over Ecology’s “Denial of Request for Waiver for TPA Waste Retrieval Criteria for SST 241-C-106” (C-106). This dispute was extended at the TPA Interagency Management Integration Team level until June 12, 2019. A Director’s Determination by the Director of Ecology was made on June 26, 2019 (19-NWP-101, “Director’s Determination on United States Department of Energy Request for a Waiver of Single-Shell Tank Retrieval Criteria”). ORP appealed the Director of Ecology’s determination to the Pollution Control Hearings Board on July 26, 2019. The parties participated in mediation on October 28, 2019. The parties were unable to successfully negotiate and resolve the appeal on October 28, but have agreed to one additional negotiation meeting in November. The important dates and litigation deadlines are set forth in the Pollution Control Hearings Board’s Second Amended Pre-hearing Order. The hearing in this appeal is scheduled for July 28, 2020.
- The U.S. Department of Energy received 47 additional comments on RPP-RPT-59389 and RPP-RPT-59390 via an email from Ecology on August 30, 2019. ORP is working through the resolution of these additional comments with Ecology.

## Single-Shell Tank Retrieval Program

**Tank Farms Assistant Manager:** Rob Hastings

**Technical Lead:** Jeff Rambo

**Ecology Project Manager:** Jeff Lyon

**M-045-93     Submit Report for Description, Analysis and Technology for Removing Drainable Liquids from SSTs**

Due: June 30, 2020.

Status: On Schedule.

Note: Change Control Form M-45-19-01 signed July 11, 2019, added this milestone to the TPA.

**M-045-86     Submit Retrieval Data Report (RDR) to Ecology for 19 Tanks Retrieved Under Consent Decree**

Due: To Be Determined (12 months after retrieval certification).

Status: No retrieval data reports are currently underway. The next planned retrieval is Tank 241-AX-102.

**M-045-70     Complete Waste Retrieval from all Remaining Single Shell Tanks (SSTs)**

Due: December 31, 2040.

Status: At Risk. Decision document 2016-005 signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45 Milestone. See the "System Plan" section above for updates related to the M-062-45 Milestone negotiations.

### Significant Past Accomplishments

- Refer to the Consent Decree monthly report for past retrieval accomplishments.

### Significant Planned Activities in the Next Six Months

- Refer to the Consent Decree monthly report for planned retrieval activities.

### Issues

- Refer to the Consent Decree monthly report for retrieval issues.

## Tank Operations Contract Overview

Earned Value Data: Fiscal Year 2020

October-19

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$49,558	\$56,276	\$52,813	\$6,718	\$3,463	1.14	1.07			
FYTD	\$49,558	\$56,276	\$52,813	\$6,718	\$3,463	1.14	1.07	\$758,921		
CTD	\$5,572,155	\$5,508,893	\$5,471,916	(\$63,261)	\$36,977	0.99	1.01	\$6,281,518	\$6,256,422	\$25,096

ACWP actual cost of work performed.

BAC budget at completion.

BCWP budgeted cost of work performed.

BCWS budgeted cost of work scheduled.

CM current month.

CPI cost performance index.

CTD contract to date.

CV cost variance.

EAC estimate at completion.

FYTD fiscal year to date.

SPI schedule performance index.

SV schedule variance.

VAC variance at completion.

The Earned Value Management System is intended to provide a status of how the contractor is progressing against its monthly planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

The project plan is measured by expressing the schedule in terms of dollars spread over the anticipated project duration, and then for each month, determining how much of the planned work was accomplished or “earned,” as measured in equivalent dollars. If more work is accomplished than planned, then the project is ahead of schedule and has a favorable schedule variance (SV). Similarly, if less work is accomplished, the project is behind schedule and has an unfavorable SV. Accomplished work is reported in the month it was completed, which may not be when it was planned. For example, work completed in a month earlier than planned would be reported as a favorable SV for the month in which it was completed, but would be reported as an unfavorable SV in the month it was planned. The end result would be a net zero overall cumulative SV over these months. Likewise, work completed late will recover an earlier reported unfavorable SV.

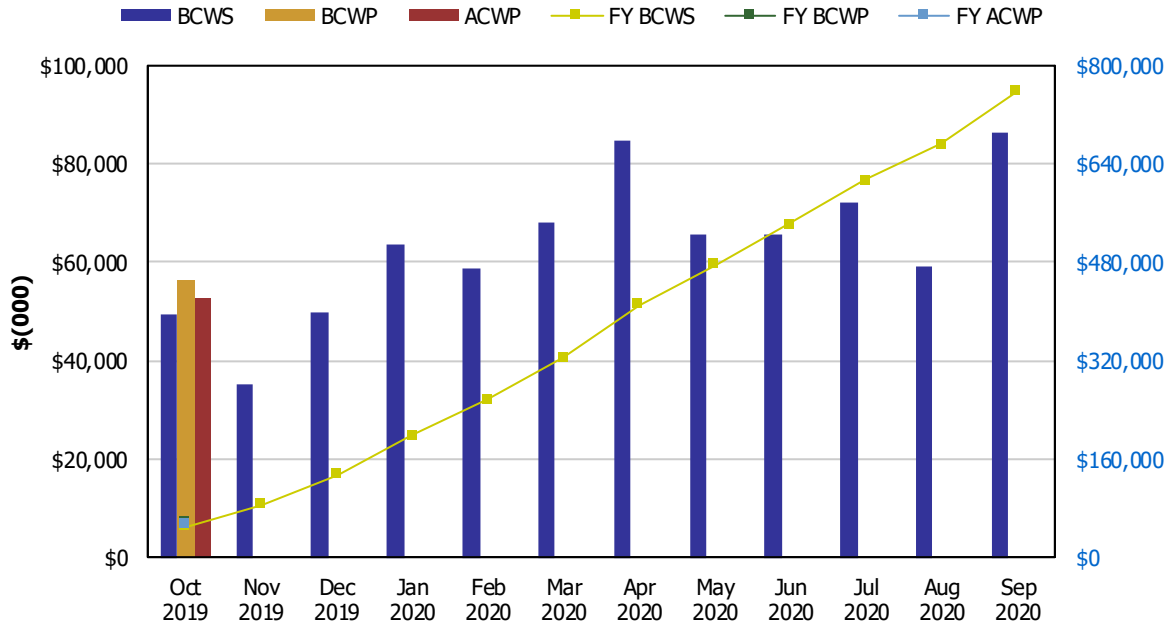
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 behind schedule [a negative or unfavorable SV: \$8,000–\$10,000 = (\$2,000)], and has cost \$1,000 more [a negative or unfavorable CV: \$8,000–\$9,000 = (\$1,000)] than was planned for completing that work scope. Likewise, a favorable or positive CV would be reported if it cost less to complete the work than the performed dollar value of the work. The SV and CV are reported for each monthly period, fiscal-year-to-date, as well as for the contract-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the fiscal year or contract-to-date report provides a better indicator of the overall project completion status and can give a reasonable projection of how the project will finish, based on the progress-to-date.

Earned Value Data: Fiscal Year 2020

October-19

**Tank Farms ORP-0014**  
**WBS 5 - River Protection Project**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	\$49,558	\$56,275	\$52,812	1.14	1.07	\$49,558	\$56,275	\$52,812	1.14	1.07
Nov 2019	\$35,271			0.00	0.00	\$84,829			0.00	0.00
Dec 2019	\$49,720			0.00	0.00	\$134,548			0.00	0.00
Jan 2020	\$63,679			0.00	0.00	\$198,227			0.00	0.00
Feb 2020	\$58,788			0.00	0.00	\$257,015			0.00	0.00
Mar 2020	\$68,241			0.00	0.00	\$325,256			0.00	0.00
Apr 2020	\$84,917			0.00	0.00	\$410,173			0.00	0.00
May 2020	\$65,485			0.00	0.00	\$475,658			0.00	0.00
Jun 2020	\$65,809			0.00	0.00	\$541,467			0.00	0.00
Jul 2020	\$72,200			0.00	0.00	\$613,667			0.00	0.00
Aug 2020	\$58,985			0.00	0.00	\$672,652			0.00	0.00
Sep 2020	\$86,269			0.00	0.00	\$758,921			0.00	0.00
CTD	\$5,572,155	\$5,508,893	\$5,471,916	0.99	1.01					

ACWP actual cost of work performed.  
 BCWP budgeted cost of work performed.  
 BCWS budgeted cost of work scheduled.  
 CPI cost performance index.

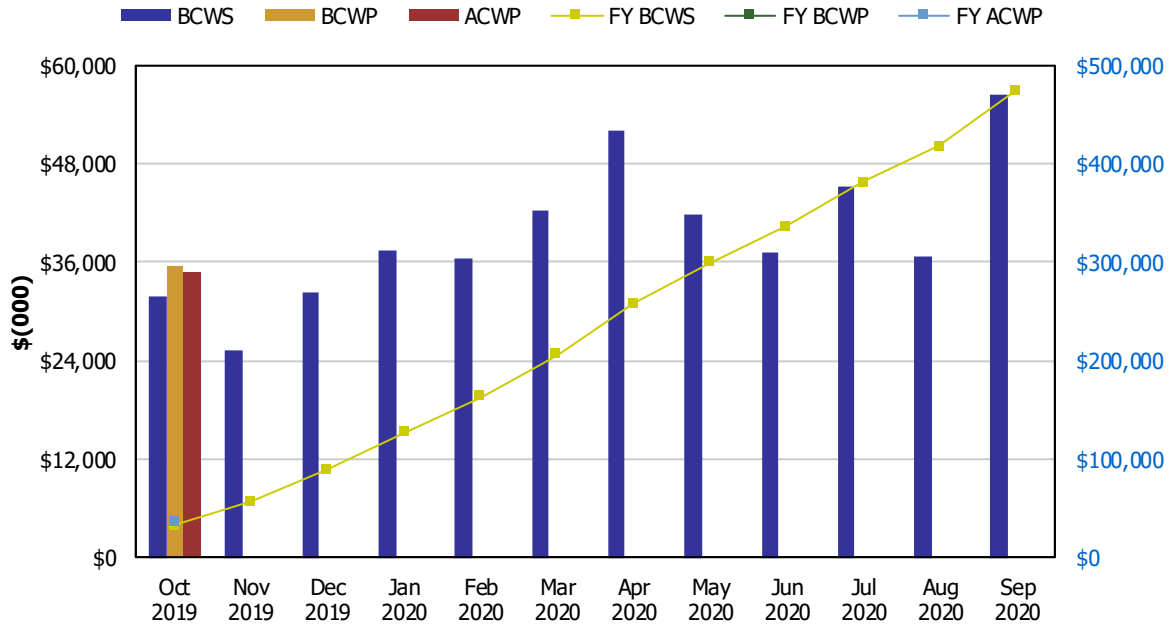
CM current month.  
 CTD contract to date.  
 FY fiscal year.  
 SPI schedule performance index.

Earned Value Data: Fiscal Year 2020

October-19

**Tank Farms ORP-0014  
WBS 5.1 - Base Operations**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	\$31,720	\$35,563	\$34,769	1.12	1.02	\$31,720	\$35,563	\$34,769	1.12	1.02
Nov 2019	\$25,157			0.00	0.00	\$56,877			0.00	0.00
Dec 2019	\$32,344			0.00	0.00	\$89,221			0.00	0.00
Jan 2020	\$37,519			0.00	0.00	\$126,740			0.00	0.00
Feb 2020	\$36,399			0.00	0.00	\$163,139			0.00	0.00
Mar 2020	\$42,348			0.00	0.00	\$205,488			0.00	0.00
Apr 2020	\$52,105			0.00	0.00	\$257,592			0.00	0.00
May 2020	\$41,771			0.00	0.00	\$299,363			0.00	0.00
Jun 2020	\$37,081			0.00	0.00	\$336,444			0.00	0.00
Jul 2020	\$45,114			0.00	0.00	\$381,558			0.00	0.00
Aug 2020	\$36,721			0.00	0.00	\$418,280			0.00	0.00
Sep 2020	\$56,481			0.00	0.00	\$474,761			0.00	0.00

CTD	\$3,690,370	\$3,655,141	\$3,604,197	0.99	1.01
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ACWP actual cost of work performed.  
 BCWP budgeted cost of work performed.  
 BCWS budgeted cost of work scheduled.  
 CPI cost performance index.

CM current month.  
 CTD contract to date.  
 FY fiscal year.  
 SPI schedule performance index.

***Tank Farms Assistant Manager:*** Rob Hastings  
***Technical Lead:*** Ricky Bang

### **5.01 – Base Operations**

The October 2019 variances below do not impact TPA milestones.

The current month **favorable** SV of \$3,843,100 was primarily due to:

- Schedule recovery of previously planned work scope from FY 2019 with the completion of the processing campaign at ETF. At the same time, the completion of the processing campaign at ETF saw early performance of FY 2020 baseline scope.
- Schedule recovery of FY 2019 carryover scope related to the installation and turnover of the AY02-A through line project. The project is installing a welded double, encased pipe spool in the AY-02A pump pit for isolation and facilitation of waste transfers to and from Tank AY-101.

The current month **favorable** CV of \$793,800 was primarily due to:

- Efficiencies gained at the ETF for the processing campaign resulted in less resources being required than originally planned. The facility was able to recover a significant portion of previously planned work scope from FY 2019 with large labor efficiencies during the performance.

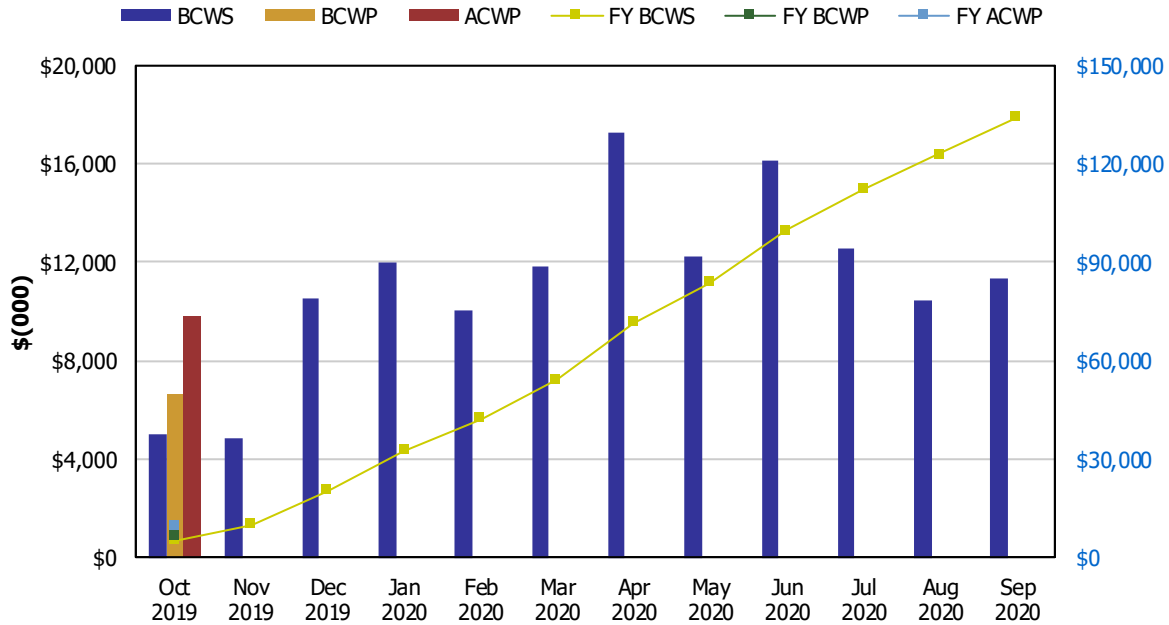


Earned Value Data: Fiscal Year 2020

October-19

**Tank Farms ORP-0014**  
**WBS 5.2 - Retrieve and Close SSTs**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	\$5,039	\$6,662	\$9,772	1.32	0.68	\$5,039	\$6,662	\$9,772	1.32	0.68
Nov 2019	\$4,806			0.00	0.00	\$9,845			0.00	0.00
Dec 2019	\$10,506			0.00	0.00	\$20,351			0.00	0.00
Jan 2020	\$12,003			0.00	0.00	\$32,355			0.00	0.00
Feb 2020	\$10,051			0.00	0.00	\$42,405			0.00	0.00
Mar 2020	\$11,834			0.00	0.00	\$54,240			0.00	0.00
Apr 2020	\$17,256			0.00	0.00	\$71,496			0.00	0.00
May 2020	\$12,215			0.00	0.00	\$83,711			0.00	0.00
Jun 2020	\$16,108			0.00	0.00	\$99,820			0.00	0.00
Jul 2020	\$12,586			0.00	0.00	\$112,405			0.00	0.00
Aug 2020	\$10,472			0.00	0.00	\$122,877			0.00	0.00
Sep 2020	\$11,335			0.00	0.00	\$134,212			0.00	0.00
CTD	\$1,089,301	\$1,068,003	\$1,128,555	0.98	0.95					

ACWP actual cost of work performed.  
 BCWP budgeted cost of work performed.  
 BCWS budgeted cost of work scheduled.  
 CPI cost performance index.

CM current month.  
 CTD contract to date.  
 FY fiscal year.  
 SPI schedule performance index.

*Tank Farms Assistant Manager:* Rob Hastings  
*Technical Lead:* Jeff Rambo

### **5.02 – Retrieve and Close Single-Shell Tanks**

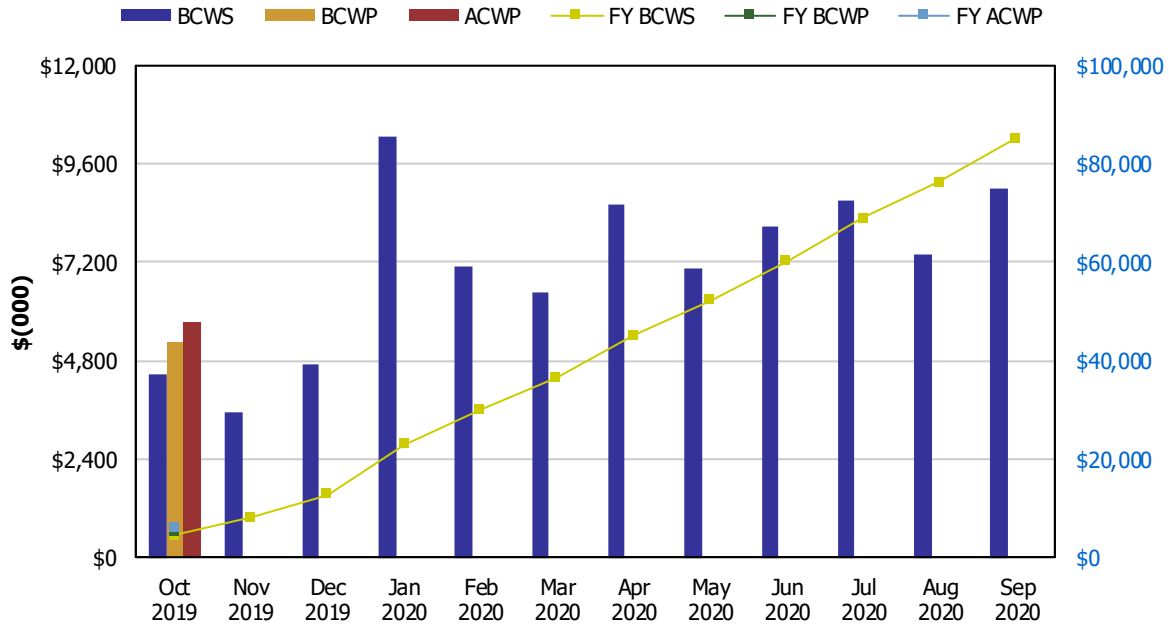
For the retrieval portion see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2020

October-19

**Tank Farms ORP-0014**  
**WBS 5.3 - WFD/Treatment Plng/DST Retrieval/Closure**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	\$4,444	\$5,240	\$5,748	1.18	0.91	\$4,444	\$5,240	\$5,748	1.18	0.91
Nov 2019	\$3,521			0.00	0.00	\$7,965			0.00	0.00
Dec 2019	\$4,707			0.00	0.00	\$12,672			0.00	0.00
Jan 2020	\$10,267			0.00	0.00	\$22,939			0.00	0.00
Feb 2020	\$7,117			0.00	0.00	\$30,056			0.00	0.00
Mar 2020	\$6,444			0.00	0.00	\$36,500			0.00	0.00
Apr 2020	\$8,613			0.00	0.00	\$45,113			0.00	0.00
May 2020	\$7,047			0.00	0.00	\$52,160			0.00	0.00
Jun 2020	\$8,086			0.00	0.00	\$60,246			0.00	0.00
Jul 2020	\$8,730			0.00	0.00	\$68,976			0.00	0.00
Aug 2020	\$7,370			0.00	0.00	\$76,346			0.00	0.00
Sep 2020	\$8,991			0.00	0.00	\$85,337			0.00	0.00
CTD	\$580,822	\$576,966	\$531,174	0.99	1.09					

ACWP actual cost of work performed.  
 BCWP budgeted cost of work performed.  
 BCWS budgeted cost of work scheduled.  
 CPI cost performance index.

CM current month.  
 CTD contract to date.  
 FY fiscal year.  
 SPI schedule performance index.

*Tank Farms Assistant Manager:* Rob Hastings  
*Federal Program Manager:* Brian Harkins

### 5.03 – Waste Feed Delivery/Treatment

The October 2019 variances below do not impact TPA milestones.

The current month **favorable** SV of \$796,400 was primarily due to:

- Schedule recovery of previously planned workscope from FY 2019 for the fourth melter refractory initial pouring. Initial pouring for the fourth melter refractory was initially delayed in completion due to restart and the pouring process taking longer than anticipated.

The current month **unfavorable** CV of (\$507,600) was primarily due to:

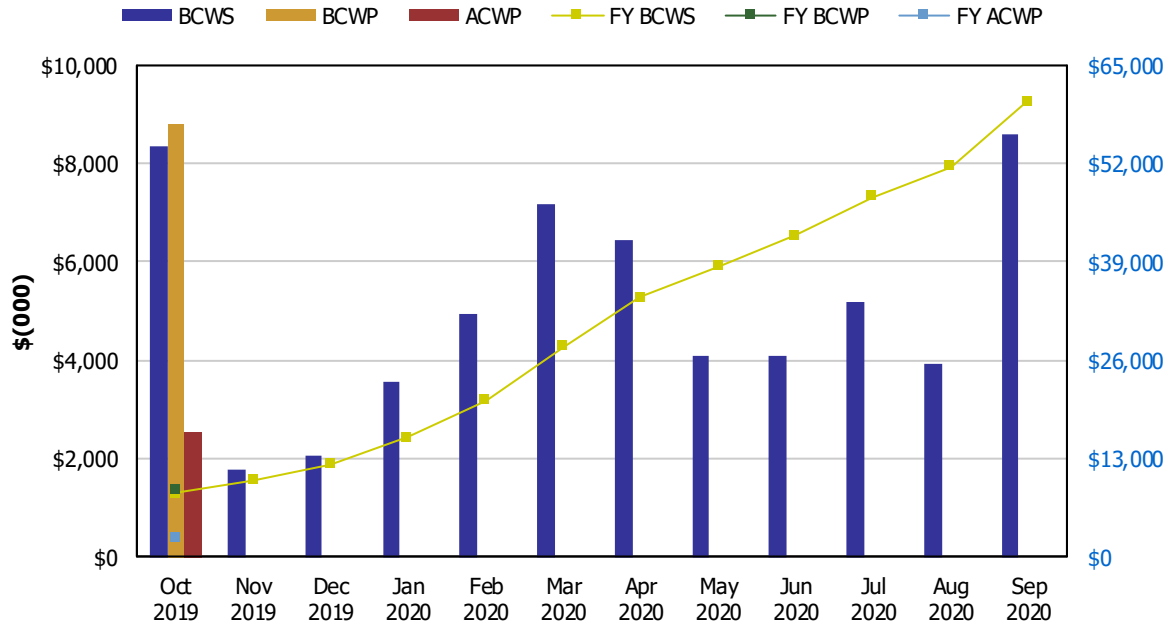
- Additional cost in support of the AP Tank Farm infrastructure upgrades for construction block training resulting from staff turnover, additional training requirements, and downtime awaiting class availability. Also, additional costs were required for installation of the AP Tank Farm change trailer including parking lot surveys, parking lot bumpers, extension of intranet conduit, light pole covers, and enhanced stair landings as well as interior trailer modifications.

Earned Value Data: Fiscal Year 2020

October-19

**Tank Farms ORP-0014  
WBS 5.5 - Treat Waste**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	\$8,344	\$8,802	\$2,523	1.05	3.49	\$8,344	\$8,802	\$2,523	1.05	3.49
Nov 2019	\$1,778			0.00	0.00	\$10,122			0.00	0.00
Dec 2019	\$2,058			0.00	0.00	\$12,180			0.00	0.00
Jan 2020	\$3,560			0.00	0.00	\$15,740			0.00	0.00
Feb 2020	\$4,949			0.00	0.00	\$20,689			0.00	0.00
Mar 2020	\$7,177			0.00	0.00	\$27,866			0.00	0.00
Apr 2020	\$6,445			0.00	0.00	\$34,311			0.00	0.00
May 2020	\$4,066			0.00	0.00	\$38,377			0.00	0.00
Jun 2020	\$4,084			0.00	0.00	\$42,461			0.00	0.00
Jul 2020	\$5,199			0.00	0.00	\$47,660			0.00	0.00
Aug 2020	\$3,917			0.00	0.00	\$51,577			0.00	0.00
Sep 2020	\$8,611			0.00	0.00	\$60,188			0.00	0.00

CTD	\$191,541	\$188,664	\$188,859	0.98	1.00
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ACWP actual cost of work performed.  
 BCWP budgeted cost of work performed.  
 BCWS budgeted cost of work scheduled.  
 CPI cost performance index.

CM current month.  
 CTD contract to date.  
 FY fiscal year.  
 SPI schedule performance index.

*Tank Farms Assistant Manager:* Rob Hastings  
*Deputy Federal Project Director:* Sahid Smith

### 5.05 – Treat Waste

The October 2019 variances below do not impact TPA milestones.

The current month **favorable** SV of \$457,900 was primarily due to:

- Schedule recovery related to the low-activity waste feed and TSCR infrastructure fabrication vendor's progress on several Critical Decision-3B long-lead items originally planned to complete in FY 2019.

The current month **favorable** CV of \$6,278,800 was primarily due to:

- Alignment of the contract budget base to the negotiated contract cost for the Low-Activity Waste Pretreatment System Project, as updated in contract modification 542, which was received by WRPS from ORP on September 25, 2019. This resulted in an increase to the value of distributed budget to align with the negotiated contract cost.